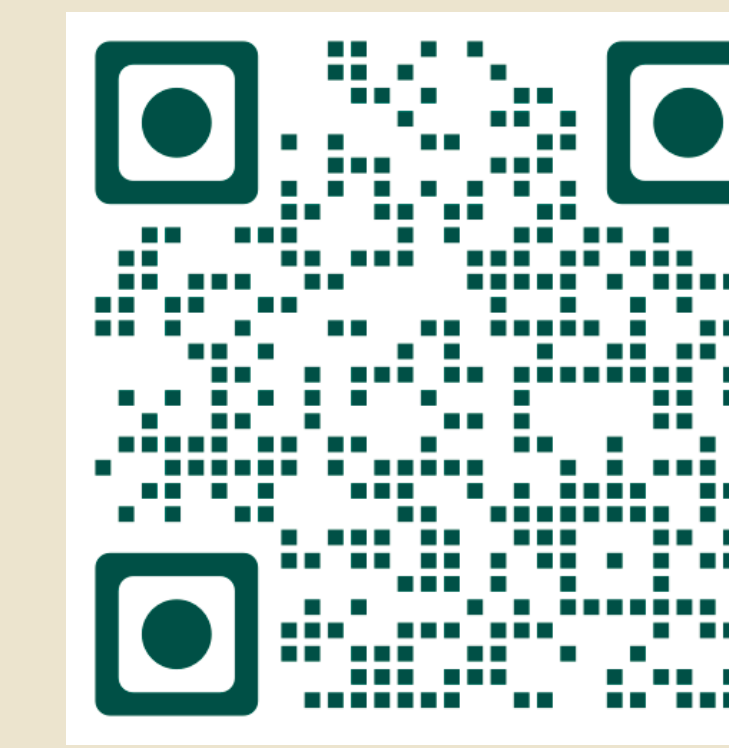


Planning Green Infrastructure For Future Drought: Comparing Differences in Urban Tree Water Use For Two Coastal Cities

Raul Cano, Rachel Torres, Ph.D

Citations



Cal Poly Humboldt
Humboldt.

Introduction

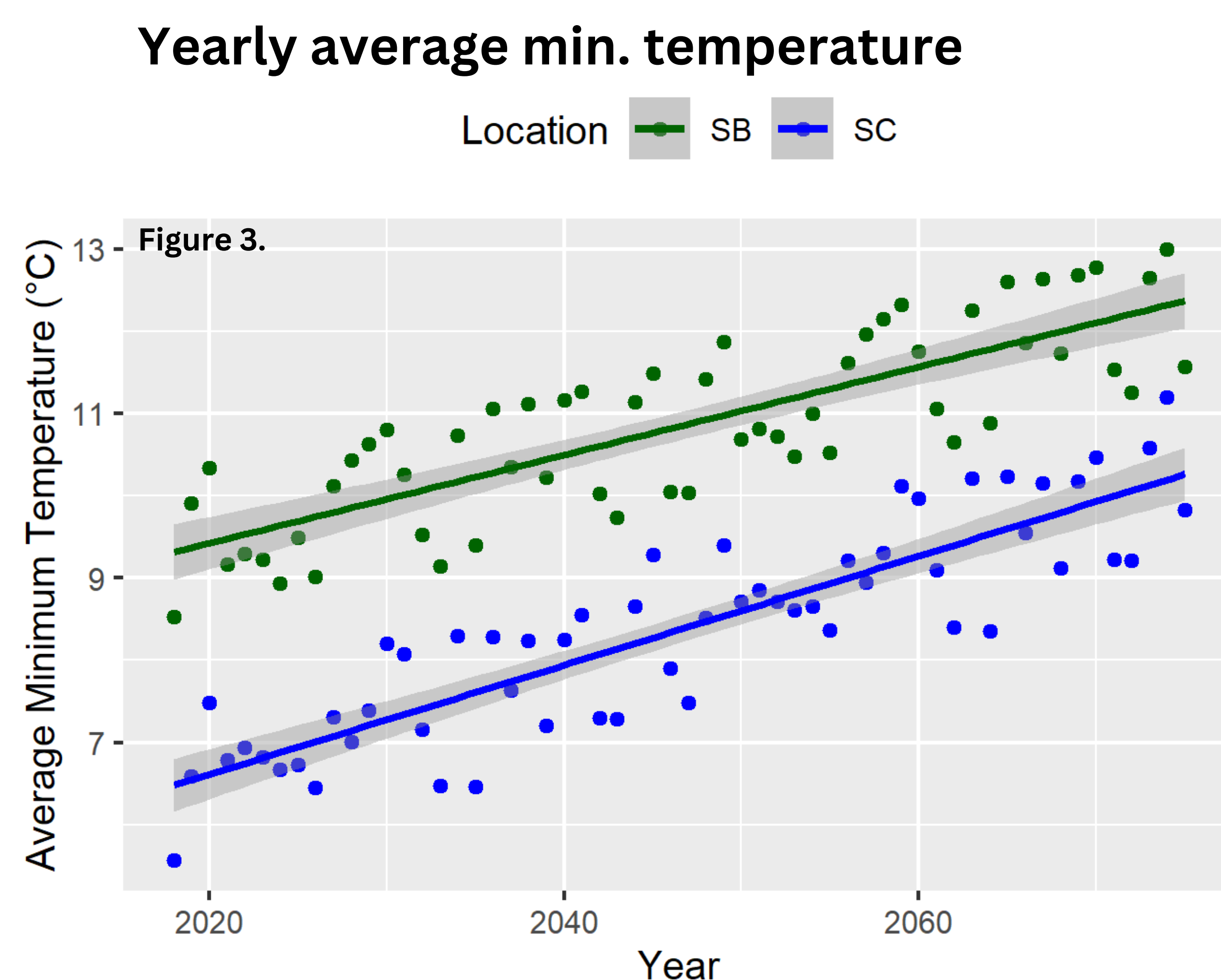
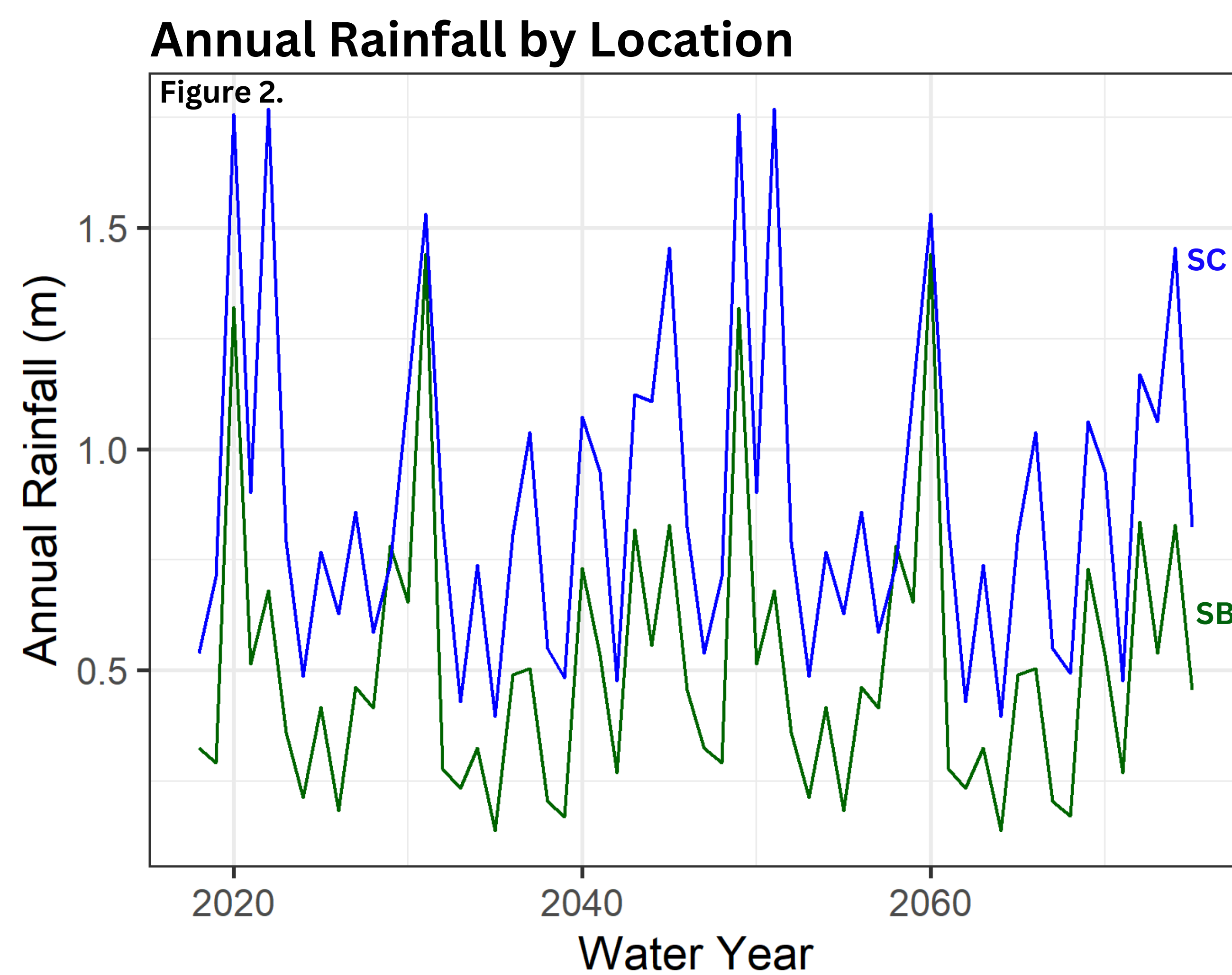
- Urban areas are identified by a mixture of natural and human built environments, which have varying effects on the water cycle
- While green infrastructure such as trees and turfgrass provides several benefits, vegetation may be negatively impacted by drought and warming
- However, when designed sustainably, the combination of vegetated and impervious surfaces can contribute positively by efficiently managing storm water and aiding green infrastructure.

Acknowledgements

This work is supported by the Louis-Stokes Alliance for Minority Participation, NSF grant number HRD-1826490

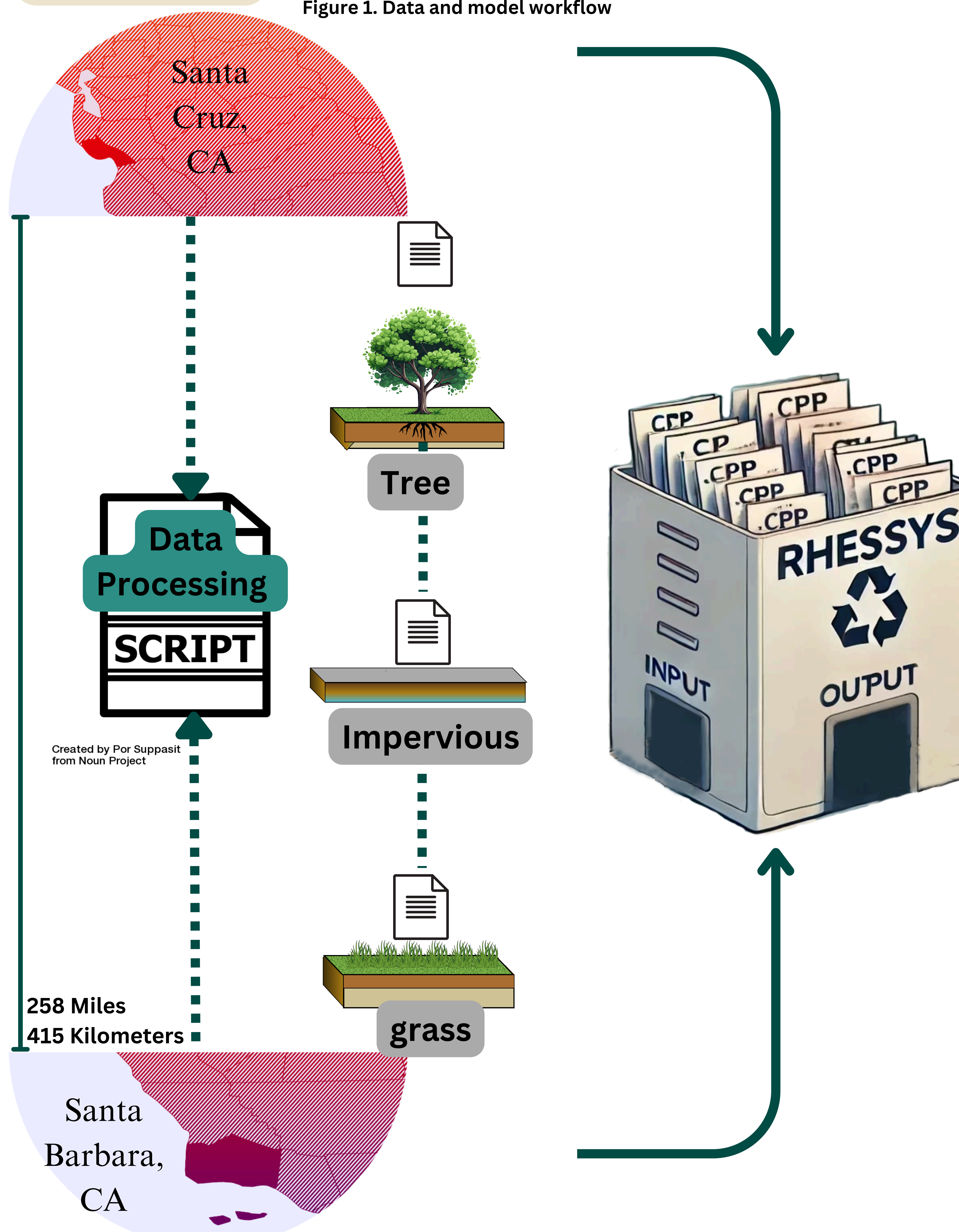


CAL-ADAPT Climate Projections



Model Setup

Figure 1. Data and model workflow

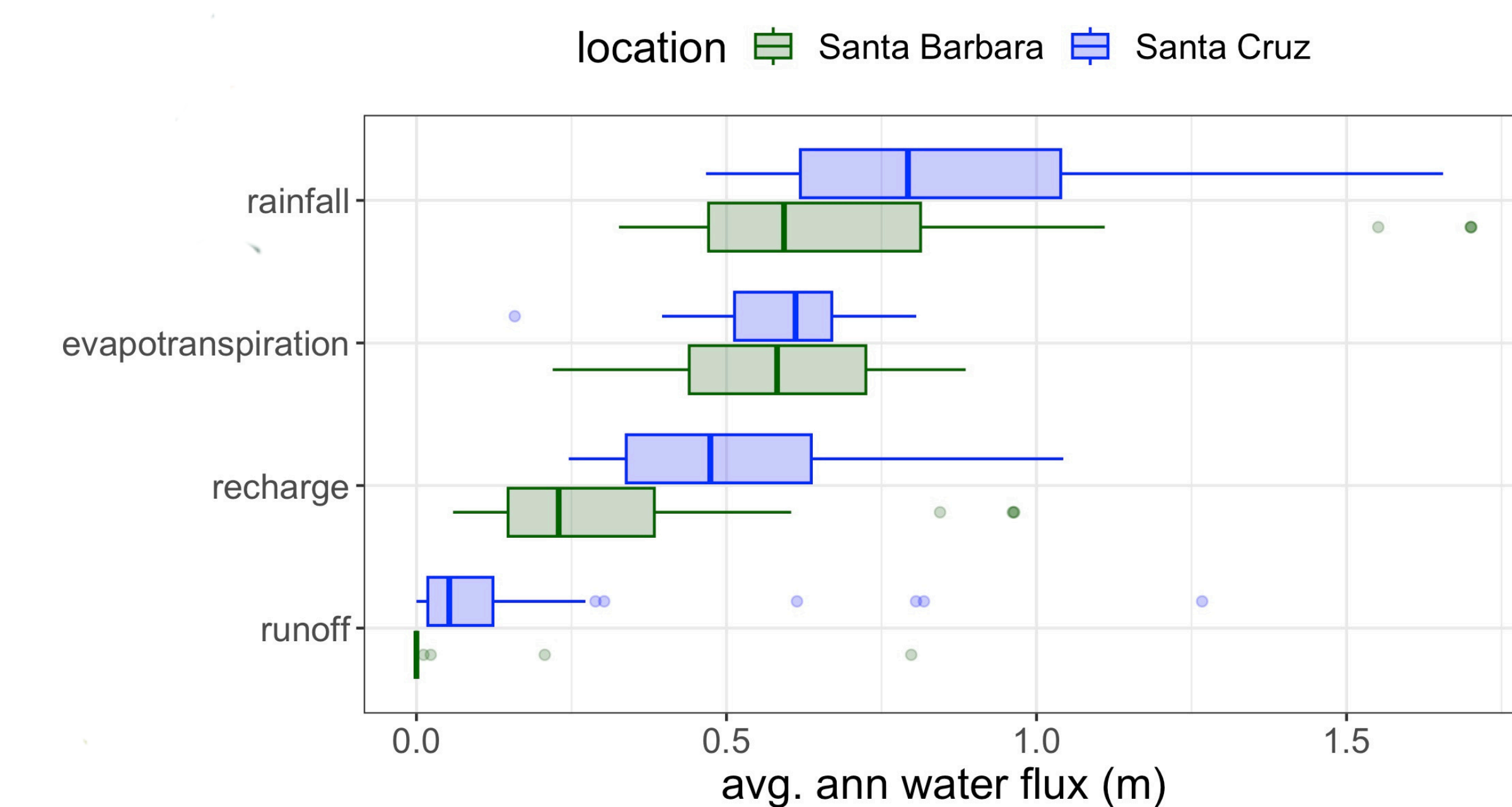


Preliminary Results

- Annual Rainfall Trends vary for both locations, with SC experiencing more annual rainfall, even in drought years compared to SB
- Both Min and Max temperatures are trending upwards indicating a need to better manage urban ecosystem due to future heat stress.

Future Research

Figure 4. Model output of variation in annual water balance for both locations



- Santa Cruz has higher average annual evapotranspiration, but Santa Barbara has more variability in evapotranspiration.
- Santa Cruz experiences higher recharge rates.
- These differences, likely due to vegetation response to drought, can inform tailored water management strategies for each location, and will be explored in future research